

the oldest timber-getters in the district heard anything of it. Birds generally, both for numbers and species, were remarkably scarce. The reason was not far to seek. The forests bore ample evidence of fire, both recent and remote. However, one interesting sight was a flock of about 30 Black Cockatoos (the White-tailed species, *baudini*) seen on the ground by the wayside. As the birds rose and flew from tree to tree, dispersing, they uttered quaint cries like that of a captured domestic hen. Although the bush-fires had played havoc with the fauna, the flora had been greatly refreshed, as evinced by the abundance and beauty of remarkable flowers seen everywhere.

On the return journey Mr. Dudley Le Souëf and Mr. A. J. Campbell together spent a week-end with Mr. Bruce W. Leake and family at Woolundra, which is 140 miles inland from Perth. The district was typical jam-wood (*Acacia*) and salmon gum (*Eucalyptus*) country, and was brightened by many flowering bushes. One "Daisy of the Desert," by its elegance and keeping qualities, threatens to rival the fame of the flannel-flower of New South Wales. Specimens kept fresh, in water, for a fortnight after they were gathered. Birds were not numerous, but a few were observed nesting about the homestead, notably Grallinas or Magpie-Larks, which had a curious and very distinctive call compared with that given by the same species in eastern parts. The Black-tailed Parrot (*Polytelis melanura*) is reported as occasionally seen in the district. One has since been obtained.

NOTES ON BIRDS OBSERVED IN WESTERN AUSTRALIA,
FROM PERTH NORTHWARDS TO GERALDTON.

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S.A.

MR. J. W. Mellor and the writer visited Geraldton, 370 miles north of Perth; but, except for one day at Geraldton and part of a day at Moora, our observations were made separately. By this means we were able to cover more ground, each visiting different localities. We beg to acknowledge the courtesy of the Western Australian Government and the officials of the Midland Railway Co. in granting us facilities without which it would have been impossible to cover as much ground in the limited time at our disposal.

The occurrence of two rare species of Sandpiper at Dongara is interesting, and suggests that these may possibly be regular visitors to the North-West coast of Australia, and only accidental visitors on the eastern side of the continent. The replacement of *Barnardius semitorquatus* by *B. zonarius* or its ally such a short distance inland and northwards is remarkable; also, the fact that the Purple-backed Wren-Warbler (*Malurus assimilis*) takes the place of the Red-winged Wren-Warbler (*M. elegans*) at Dongara and Geraldton suggests that the latter has a limited range. The discovery of the Yellow-tinted Honey-eater (*Ptilotis flavescens*)

or an allied form at Dongara and Geraldton is of particular interest, as we had been given to understand that the Carter Honey-eater (*P. carteri*) was the species occurring there.

***Sterna bergii*.** Crested Tern.—Numerous at Dongara. Most had black outer margins to their wings—a form of immature plumage not noted in birds along the South Australian coast. I thought at the time the Dongara birds were a different species.

***Sternula nereis*.** White-faced Ternlet.—A small flock of what I concluded were this species at Dongara.

***Larus novæ-hollandiæ*.** Silver Gull.—All along the coast.

***Erythrogonyx cinetus*.** Red-kneed Dottrel.—These charming birds were numerous on a swamp at Moora.

***Charadrius ruficapilla*.** Red-capped Dottrel.—Numerous on the swamps near Moora.

***Himantopus leucocephalus*.** White-headed Stilt.—Fully a hundred of these Stilts were on the Moora swamp. The long, trailing legs, stretched-out necks, and loud, barking cries as they flew overhead on being disturbed made one of the most charming exhibitions of bird-life met with on the trip.

***Totanus brevipes*.** Grey-rumped Sandpiper.—At Dongara I saw several Sandpipers new to me in the field, although I had a specimen from Europe in my cabinet. At high tide this species and the following sheltered about the low, overhanging cliffs, only taking flight when the intruder was a few yards away. The Grey-rumped Sandpiper has a most distinctive action, bobbing its tail up and down on settling. It is possible that a large Sandpiper seen at Moora may be referable to this species.

***Actitis hypoleucos*.** Common Sandpiper.—A rare visitant to our shores. There were several companies of three or four each, which hugged the rocks at Dongara so closely that the first intimation of their presence would be their rising practically at one's feet. The dark colour of the upper side marked them easily as distinct from the two following species. When handled the feathers have a decided wash of green.

***Pisobia ruficollis*.** Eastern Little Stint.—Large flocks were feeding on the sands and banks of weed at Dongara and on the drying up swamps near Moora.

***Pisobia acuminata*.** Sharp-tailed Stint.—Flocks were on the same lagoon as the preceding, near Moora.

***Burhinus grallarius*.** Southern Stone-Curlew.—Saw several near Watheroo.

***Eupodotis australis*.** Australian Bustard.—I saw several both going and coming from the magnetic observatory out in the sand-plains from Watheroo.

***Carpodacus spinicollis*.** Straw-necked Ibis.—On Moora lagoon.

***Platibis flavipes*.** Yellow-billed Spoonbill.—Saw one on the same lagoon as the preceding.

***Notophox novæ-hollandiæ*.** White-fronted Heron.—Several fishing at the mouth of the Dongara River.

Nycticorax caledonicus. Nankeen Night-Heron.—Saw several on swampy ground on the Perth side of Watheroo.

Anas superciliosa. Australian Black Duck.—Swamp at Moora.

Nettion gibberifrons. Grey Teal.—A few on swamp at Moora.

Phalacrocorax gouldi. White-breasted Cormorant.—Fishing at mouth of the Dongara River.

Hieracidea berigora. Brown Hawk.—A bird obtained at Ellensbrook was much smaller than any specimen I have seen in the East. Common at all places visited.

Cerchneis cenchroides. Nankeen Kestrel.—Seen at Watheroo and Dongara. A pair was feeding four almost fledged young in the roof of one of the barns, close to the jetty; I saw the parent bird bring a small snake in its talons. The plumage of these parent birds was different from any observed by me before. Possibly it was Mr. Milligan's species *unicolor*. As the birds had young, I did not kill a specimen to make sure.

Calyptorhynchus baudini. White-tailed Cockatoo.—Flocks at Watheroo and Moora. At the latter place Mr. Orton showed us their nesting-holes in fairly tall salmon gums near his homestead.

Cacatua roseicapilla. Galah.—A pair of these handsome Cockatoos had taken up their residence in the small clump of trees at the soak near the Watheroo Observatory.

Barnardius zonarius and **B. occidentalis.** The Yellow-banded Parrot and the Northern Yellow-banded Parrot.—It was interesting to find that the Parrot known as the "Twenty-eight" (the vernacular name of *B. semitorquatus*, the common "Ring-neck" of the Busselton to Leeuwin district) at Watheroo to Geraldton—in fact, from Moora northwards—was a variant of our familiar South Australian Parrot, more often called "The Port Lincoln Parrot." In our opinion, *B. semitorquatus* is a good species; its long tail, general coloration, and red frontal band distinguish it from all the variants of *zonarius*. There seem to be two distinct forms of *B. semitorquatus*. All we saw at Yallingup and Ellensbrook were entirely green on the under side, but I collected several at Eticup in 1901 which have the lower half of the abdomen bright yellow. These Watheroo and Moora birds have no red frontal band, have the yellow abdomen and a decidedly shorter tail than *B. semitorquatus*, though it is certainly longer than that of the typical *B. zonarius*, and also the shade of colour is distinct. It may be that the specimens are North's sub-species *occidentalis* or a transition stage thereof. Mr. Orton told us that *B. semitorquatus* and the Red-capped Parrot or King Parrot, both observed at Ellensbrook, in the south, follow a narrow belt of red gums between Moora and the coast. Most likely Moora is their northern limit. I did not hear of either in the neighbourhood of Watheroo.

Psephotus multicolor. Many-coloured Parrot.—A pair in splendid plumage on one of the soaks near Watheroo Observatory. Except for a slightly deeper shade of colour, they cannot be distinguished from South Australian specimens.

I did not see any specimens of the Western Ground-Parrot (*Pezoporus flaviventris*), but I got such an accurate description of it, both its appearance, habits, and flight, that there is not the slightest doubt in my mind that 25 years ago it was scattered freely through

the sand-plain country between Dongara and Watheroo. Since then the denseness of the bush has been greatly reduced by the constant fires. My informant—an old man of exceptional observing powers—was confident that fires are the real cause of the disappearance of this and other birds. This view endorses my own observations. I was not aware of the "Ground-Parrot" having been before recorded as inhabiting these northerly sand-plains, and it should still be searched for in such districts that have been missed by fires.

Podargus braehypterus. Short-winged Frogmouth.—We were interested in watching a family of these birds in an old Magpie-Lark's nest. With the field-glass we watched the two young ones almost ready to leave the nest and the old bird sitting stiff and upright on the bough alongside, resembling a broken-off branch jutting from the bough on which the nest was situated.

Halcyon sanctus. Sacred Kingfisher.—Observed at Watheroo and Dongara. Mr. Mellor identified the Red-backed Kingfisher as well at Geraldton.

Merops ornatus. Australian Bee-eater.—Numerous around Watheroo. Specimens show some difference in shade from South Australian skins. About Ellenbrook these birds were known, not inappropriately, as "Gold-miners."

Cuculus pallidus. Pallid Cuckoo.—Calling between the Observatory and the Watheroo station.

Chalcococcyx basalis. Narrow-billed Bronze-Cuckoo.—Calling in the same locality as the previous species.

Hirundo neoxena. Welcome Swallow.—Watheroo and Dongara.

Cheramœca leucosternum. White-backed Swallow.—Noticed at Geraldton; one was perched on a fence by the roadside.

Hylochelidon nigricans. Tree-Martin.—Numerous in all localities visited.

Micrœca assimilis. Allied Brown Flycatcher.—Noted at Moora, and probably found at the other localities visited.

Petroica campbelli. Western Scarlet-breasted Robin.—Common at Claremont. A comparison of specimens collected in South Australia with those obtained at Claremont, Mundaring, and Ellensbrook reveals no difference in the size of the frontal spot and little divergence in colour; the whole series must be referred to *P. multicolor*.

Petroica goodenovii. Red-capped Robin.—Noted at Moora and Dongara.

Melanodryas bicolor. Hooded Robin.—Saw a few on the sand-plains at Watheroo; although small, they do not otherwise differ from the South Australian form. In comparing my series I note a large form obtained in the New England country, on the Queensland border, which has white tips to the tail feathers. Have other members of the Union collected in that locality? If so, it will be interesting to know whether theirs have this feature.

Gerygone culicivora. Southern Fly-eater.—This delightful little songster is numerous at Claremont, and I noted it at one of the northern localities.

Eopsaltria griseogularis. Grey-breasted Shrike-Robin.—Noted at Claremont.

Oreoica cristata. Crested Bell-Bird.—The ventriloquizing notes of the Bell-Bird were seldom out of hearing during my stay at the Observatory station near Watheroo.

Pachycephala rufiventris. Rufous-breasted Whistler.—This fine song-bird filled the woods around Claremont with melody, and I listened to its splendid efforts at Watheroo. One cannot help making comparisons between the song of *P. occidentalis* (Western Yellow-breasted Whistler), so numerous at Ellensbrook, and the Rufous-breasted species. While both have some notes as full and as melodious as those of the European Nightingale, the Rufous-breasted Whistler certainly takes the prize.

Rhipidura preissi. Western Fantail.—Found at Claremont.

Rhipidura motacilloides. Black-and-White Fantail.—Noted everywhere.

Graucalus melanops. Black-faced Cuckoo-Shrike.—Noted in most places visited.

Campephaga humeralis. White-shouldered Caterpillar-eater.—Fairly numerous on the sand-plains near Watheroo.

Hylacola cauta. Rufous-rumped Ground-Wren.—The identification of this bird at Dongara is uncertain. I had one glimpse of the rich chestnut rump so characteristic of this species as it disappeared into a dense bush, but I was unable to rouse it into view again. We certainly identified it at Kalgoorlie.

Pomatostomus superciliosus. White-browed Babbler.—Noted at Geraldton.

Acanthiza inornata. Western Tit-Warbler.—I noted this inconspicuous little bird at Claremont.

Geobasilus chrysorrhous. Yellow-tailed Tit-Warbler.—Noted at Claremont and Moora. Specimens obtained at Watheroo, in the sand-plains, in the scrub around a "soak," proved on examination to be decidedly smaller and less spotted on the crown of the head than those observed farther south.

Acanthiza uropygialis. Chestnut-rumped Tit-Warbler.—Noted near the railway at Watheroo.

A. apicalis. Broad-tailed Tit-Warbler.—Numerous at Claremont. Although the examination of a cabinet specimen might lead one to treat this bird as a sub-species of *A. pusilla* (the Brown Tit-Warbler), the observation of its habits in the bush inclines me to give it full specific rank. Its notes are quite distinct from those of *A. pusilla*; its tail is decidedly longer; it carries its tail distinctly elevated—not erect or even at an angle of 45° , but still with a distinct elevation, so different from *A. pusilla*. In the specimen examined the eye was yellow, with a tinge of orange, and not decidedly red, as in *A. pusilla*.

Sericornis maculata. Spotted Scrub-Wren.—Numerous in coastal scrub at Geraldton and Dongara.

Malurus splendens. Banded Wren-Warbler.—Numerous and tame at Claremont. It no doubt occurs in low scrub at Geraldton, as it was described to us by local residents.

Malurus assimilis. Purple-backed Wren-Warbler.—A female taken at Dongara in coastal bush; Mr. Mellor obtained a male at Geraldton.

We were hoping to get *M. elegans* (the Red-winged Wren-Warbler), which occurs near Perth. *M. elegans* seems to be limited to the south-west corner of the State.

Malurus cyanotus. White-winged Wren-Warbler.—Observed at Geraldton and Dongara, and heard of it in the sand-plains at Watheroo. Three species of *Malurus* occur in the low bush on the promontory on which the town of Geraldton is built.

Artamus cinereus. Grey-breasted Wood-Swallow.—At the Watheroo Observatory many were hawking for insects in the hot sunshine out on the plains. They settled on the higher bushes after each short flight, in a moment or so soaring off again. They were difficult to approach. The fully matured young had the head and back beautifully striated. Numerous at Dongara and Moora, but at Moora they were only just beginning to nest. Possibly Moora is a second nesting-place, the first having been much earlier in the sand-plains.

Colluricincla rufiventris. Buff-bellied Shrike-Thrush.—Common at Geraldton and at Dongara, but we did not secure any specimens there; I am sorry for this, as the skin I procured at Ellensbrook differs considerably from a specimen I took in 1901 at Callion, on the goldfields.

Grallina picata. Magpie-Lark.—A pair at one of the "soaks" near Watheroo.

Neositta pileata. Black-capped Tree-runner.—Found on the sand plains at Watheroo. They are slightly lighter in colour than South Australian specimens, and have considerably less white on the head and under side than is the case with a skin from Lake Austin, W.A., that is labelled *N. tenuirostris* (Slender-billed Tree-runner); but age might account for the difference. There is no material difference in the bills.

Climacteris rufa. Rufous Tree-creeper.—Not seen, but Mr. Orton pointed out some scrub where they still are. The ringing and destruction of the timber, with the assistance of cats, are fast clearing them out of the district.

Zosterops gouldi. Green-backed White-eye.—Almost the counterpart of the handsome Yellow-throated species common in the tropical brush on the Northern Rivers, New South Wales, and which I have always identified as *Z. ramsayi*, except that the eastern bird has a grey back and the western one a green back. I think *Z. ramsayi* should not be omitted from the "Check-list." The birds at Geraldton are smaller and brighter in tint than birds observed at Perth.

Pardalotus striatus. Red-tipped Pardalote.—Common at Claremont and Watheroo.

Acanthorhynchus superciliosus. White-browed Spinebill.—Common at Claremont.

Glyciphila fulvifrons. Tawny-crowned Honey-eater.—Common on the sand-plains. I believe *G. albifrons* was there as well.

Stigmatops ocularis. Brown Honey-eater.—This little songster was common at Claremont, also at the "soaks" at Watheroo and at Dongara and Geraldton. The song of this diminutive songster made a great appeal to us. More than once we thought that its song strikingly resembled that of the Reed-Warbler. I think it easily the

best songster amongst the Honey-eaters, and should greatly like to have the charm of its notes resounding in our South Australian bush. The fact of this bird having spread from the tropics down the west coast to the Leeuwin and having failed to extend down the east coast of Australia gives scope for research.

Ptilotis sonora. Singing Honey-eater.—Common at places visited.

Ptilotis geraldtonensis. New species Honey-eater.—It was exceedingly interesting to find this bird at Geraldton and Dongara, where it takes the place of *P. penicillata* (the White-plumed Honey-eater) in South Australia, with similar notes and habits. We expected *P. carteri*, but our specimens differ considerably from specimens in my collection of that bird, and, although considerably larger and darker in colour than specimens of *P. flavescens* from Derby, the specimens collected are certainly nearer that species than to my representatives of *P. flava*, *P. carteri*, or *P. keartlandi*. I give the name *geraldtonensis*, that being the first locality in which I found it, although I afterwards found it even more numerous at Dongara. It prefers creek beds.

Meliornis mystacalis. Moustached Honey-eater.—Seen near the Watheroo Observatory, its white cheek-mark being most conspicuous.

Myzantha obscura. Dusky Miner.—Numerous at Moora, but not seen elsewhere. An examination of the skins obtained shows decided differences from a skin I collected near Perth in 1901. The Perth specimen has a strikingly large beak and is generally much darker; the Moora specimens have a light rump, almost as light as in the Yellow-throated Miner (*M. flavigula*). Possibly the difference may be due to sex; anyhow, the Moora specimens are nearer to *M. flavigula* than to the Perth one.

Anthochaera carunculata. Red Wattle-Bird.—Common at Claremont.

Anellobia lunulata. Little Wattle-Bird.—Common at Claremont.

Chlamydera maculata. Spotted Bower-Bird.—Mr. Gardner, of Geraldton, described the mauve-coloured crown of the head—or, rather, nape—and it seems certain that no other bird but a Bower-Bird could fit the description. He had, I understood, only seen it once, close to Geraldton, in the thick sand-hill scrub. Probably it was attracted by the berries on a low scrub, and which were, at the time of our visit, being greedily fed upon by the Green-backed White-eye (*Zosterops gouldi*).

Corvus coronoides. Australian Raven.—Common at Watheroo, but wary.

Cracticus nigrogularis. Black-throated Butcher-Bird.—Noted at Watheroo and Moora. Its flute or flageolet-like notes surpass those of any of its congeners it has been my privilege to hear.

Cracticus leucopterus. White-winged Butcher-Bird.—Noted in same localities as the preceding.

Gymnorhina dorsalis. Varied Magpie.—Common at Claremont and Watheroo, but wary. I secured a female which is remarkably like the Black-backed species, except that the white neck collar is much less pronounced, and there are some white flecks in the middle of the black saddle. It seems a fully adult bird, in mature plumage. The male birds appeared to be similar to our White-backed species.

Truly, the combination is not only remarkable, but also most distinctive.

In conclusion, I wish to acknowledge our indebtedness to Messrs. Bullock and Orton for the opportunity of seeing something of the bird-life of Moora. In the few hours at our disposal we were taken by motor from place to place, saw something of the breeding-places of many of the water-birds and waders, and were told that lagoons similar to the two visited continued in a sort of string for fully 20 miles. What a happy hunting-ground for the bird-lover!

UPON THE MURCHISON.

By J. W. MELLOR, SOMETIME PRESIDENT R.A.O.U.

As Mr. Ashby has dealt with the southern portion of the ornithological expedition undertaken by us in Western Australia, I shall deal with the farthest north—the Murchison River district.

Having dropped my co-worker from the train on the Watheroo sand-plain at mid-day, I continued the journey to Geraldton, and arrived there at midnight. By 6 p.m. next day the head of the railway line was reached at Ajana. This still left many miles to travel before the River Murchison could be reached. Happily, I found a friend in Mr. George Wyly, who had an interest in a mine on the Murchison, and Mr. Tom Johnston, who was "going that way" in a springcart. My luggage and self were soon stowed away, and the journey started through sand-plain and open country, with many beautiful flowers fit for any garden. Soon our way became rougher, and at times everyone and everything left the dray as we got into scrub country; the stones and ruts were bad, and the darkness intense. Quite unexpectedly we came upon a camp-fire in the scrub at the Block 7 Lead Mine, where I found another friend in need—Mr. W. F. Thring, a son of the well-known South Australian explorer—and we were soon discussing things, "parliamentary and otherwise," over a mug of steaming hot tea, which was most acceptable, as the night was bitterly cold, although the day had been intensely hot. Mr. Thring drove me that night to the Murchison, to the camp of Mr. Harry Leader, a part owner of the Boobee Copper Mine, where I received a hearty bush welcome, and it was midnight before I got to bunk under the shelter of an open tent and dreamed of the mighty flowing Murchison and the innumerable water-fowl—impressions that were so soon to be shattered on the morrow, for, on forcing my way to the river next morning, I was surprised to find a rocky-bottomed course, dry but for occasional pools some 30 or 40 yards long, and saltier than the sea, the only water available for drinking purposes being a solitary soak, giving a few kerosene tins per day, or a little thick mud from the bottom of the copper mine. The day was scorching—considerably over 100 degrees in the shade, "if you could find it," as, for the most